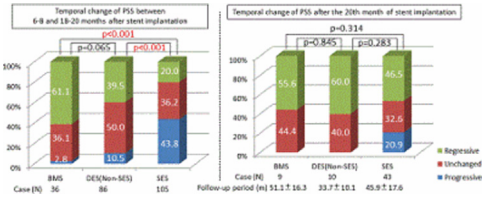

Conclusions: Temporal change of PSS might be different between SES, non-SES, and BMS until the 20th month of stent implantation. After the 20th month of stent implantation, abnormal vessel reactions appeared to continue in some lesions after SES implantation.

TCT-463

Impact of Late Catch-up Phenomenon on Delayed Restenosis After Sirolimus-Eluting Stent and Bare-Metal Stent Implantation

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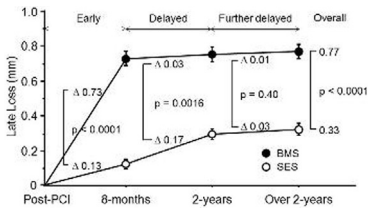
Background: There are limited data on whether delayed late catch-up exists in sirolimus-eluting stents (SES) and bare-metal stents (BMS). We sought to compare differences in time course of late loss (LL) between SES and BMS.
Methods: Serial (8-months, 2-years, and over 3-years) angiographic examination was performed in 598 lesions treated with SES (n=353) or BMS (n=245). Lesions with 8-months and 2-years instent-restenosis (>50% of angiographic diameter stenosis) were excluded. LL was categorized as early (between post-procedure and 8-months), delayed (between 8-months and 2-years), further delayed (between 2-years and over 3-years) or overall (between post-procedure and over 3-years).
Results: Whereas early LL was significantly smaller in SES than in BMS, delayed LL was significantly greater in SES than in BMS. On the other hand, further delayed LL was comparable between the 2 stents. Consequently, overall LL was significantly smaller in SES than in BMS. Moreover, the incidence of over 3-year instent-restenosis was similar between the 2 stents (1.13 and 0.82% in SES and BMS, p=0.70). In multivariate analysis, stent type predicted delayed LL but did not predict further delayed LL.
Conclusions: SES lumen diameter progressively narrowed in delayed phase compared with BMS. However, the narrowing rate was similar among SES and BMS over 2 years. This evidence may raise the possibility that the impact of late catch-up phenomenon on SES restenosis over 2 years is minimal.



TCT-464

Comparison of Cutting Balloon Angioplasty for the Treatment of Restenosis with Bare Metal Stent; Neointimal Hyperplasia Tissue vs Neoatherosclerosis tissue

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Background: The morphological characteristics of restenotic tissue with bare metal stent (BMS) in very late in-stent restenosis (VL-ISR) were different from those in early in-stent restenosis (E-ISR) and similar to atherosclerotic plaque which is called neo-atherosclerosis. However, the efficacy of cutting balloon angioplasty (CBA) for those different tissues has not been analyzed. The purpose of this study is to compare the efficacy of CBA for ISR of BMS according to the morphologic pattern of restenosis.
Methods: Patients with ISR of BMS were enrolled and were performed optical coherence tomography before intervention. According to the optical coherence tomography (OCT) images and periods after stent implantation, those patients were categorized to 2 group; 1) Neoatherosclerosis group (n=38); angiographcial restenosis was revealed later than 5 years after stent implantation without restenosis within the first year and lipid-like image was shown by OCT image; 2) neointimal hyperplasia (NIH) group (n=62); angiographical restenosis was revealed within first year and OCT image showed homogeneous intima. All cases were treated with CBA and 6 months follow-up angiography was performed and the angiographic findings at 6 months follow-up were compared between the 2 groups.
Results: At 6 months angiographic follow-up, the frequency of re-ISR and target lesion revascularization were significantly higher in neoatherosclerosis group (57.8% vs 35.4%, 44.7% vs 24.2%; p<0.05). Re-occlusion was revealed only 1 case in neoahteroscleroses group (p=0.31). There was no significant differences about late loss (0.87±0.56mm vs 0.74±0.75mm, p=0.39).
Conclusions: The treatment with CBA for BMS VL-ISR lesion with neoatherosclesosis could not show similar efficacy compare to those for BMS E-ISR lesion with NIH tissue.

TCT-465

Drug-Eluting Balloon in the Treatment of Instent Restenosis and Diffuse Coronary Artery Disease; Real World Experience from a Single Center Registry

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Background: Although stents form the backbone of PCI, they may not be ideal for all lesions, especially; in-stent restenosis (ISR) and diffuse disease in small vessels. Drug-eluting balloons (DEB) are emerging as an alternative treatment in such situations and their use is escalating. DEBs have been studied in randomized trials and registry studies with favourable outcomes. Despite these studies, data from real-world population is lacking. We report a single-center experience of DEB in the treatment of ISR and de novo coronary artery disease from a large cohort of patient.
Methods: We retrospectively evaluated all patients treated with the drug-eluting balloon (In.Pact FalconTM, Medtronic Inc., Minneapolis, MN, USA) between January 2009 and December 2011. The measured endpoints were cardiac death, MI, target lesion revascularization (TLR), target vessel revascularization (TVR) and major adverse cardiac events (MACE) defined as combination of cardiac death, MI and TVR.
Results: A total of 7622-PCI procedures were carried out at our centre during the study period. Drug-eluting balloons were used in 275-lesions (184-patients) (3.6%). The predominant indication for DEB use was ISR (n=170, 62%), with de novo lesions accounting for the remainder (n=105, 38%). The mean age of patients treated with DEB was 66.2±9.6 years and 87% were male. Bailout stenting was required in 31.6% of lesions; 24% for angiographic optimization and 7.3% for dissection caused by balloon injury. The median clinical follow-up was 14.6 months (IQR 12-23) and a minimum of 6-months follow-up was achieved in all patients. The rates of cardiac death, MI, TLR, TVR and MACE were: 3.8%, 1.6%, 16.8%, 17.9% and 21.7% respectively. The overall rate of stent thrombosis was 0.5% (n=1). Further sub-analysis revealed that the benefits of DEB use were more pronounced in BMS-ISR than DES-ISR (TLR: 11% vs. 17.7%, TVR: 11% vs. 22%, MACE: 15% vs. 28%) respectively.
Conclusions: Our results suggests that DEB can be considered in lesions where the use of stents are not desirable especially restenotic lesions and diffuse small vessel disease. Further long-term follow-up of these patients, will provide us more insights on the long-term outcomes.

TCT-466

Paclitaxel-coated Balloon Versus Drug-eluting Stent for the Treatment of In-stent Restenosis in Patients with Renal Failure on Hemodialysis

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Background: It has not been reported about the efficacy of paclitaxel-coated balloon for in-stent restenosis in patients with renal failure on hemodialysis.
Methods: From January 2003 to August 2012, 359 in-stent restenosis lesions in patients with renal failure on hemodialysis underwent percutaneous coronary intervention. One hundred sixty one lesions (56 lesions treated with paclitaxel-coated balloon, 105 lesions treated with drug-eluting stent) underwent midterm follow-up coronary angiography by 8 months after treatment. We compared the quantitative coronary analysis data and the rates of restenosis and target lesion revascularization (TLR) at midterm f/u between paclitaxel-coated balloon group and drug-eluting stent group.
Results: There were no significant difference in the rates of restenosis and TLR. The minimal luminal diameter at midterm f/u showed no significant difference between two groups, but the late loss was significantly small in paclitaxel-coated balloon group. Data are shown in the table.
Conclusions: The treatment with paclitaxel-coated balloon has the equivalent efficacy of treatment with drug-eluting stent for in-stent restenosis in patients with renal failure on hemodialysis.

	Paclitaxel-coated Balloon 56	Drug-eluting Stent 105	P value
Restenosis	20 (35.7%)	35 (33.3%)	0.76
TLR	11 (19.6%)	34 (32.4%)	0.09
QCA data			
RD	2.99±0.08	3.17±0.06	0.07
Acute gain	1.25±0.10	1.74±0.07	<0.01
MLD at midterm f/u	1.75±0.11	1.85±0.08	0.49
DS(%) at midterm f/u	43.9±19.2	42.9±26.5	0.80
Late loss	0.32±0.79	0.80±0.99	<0.01

TLR: target lesion revascularization RD: reference diameter
MLD: minimal luminal diameter DS: diameter stenosis

POSTERS